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Extreme Outlier: The Pandemic's Unprecedented Shock to Tourism in Latin America and the Caribbean

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Country Department Caribbean Group

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Extreme Outlier: The Pandemic's Unprecedented Shock to Tourism in Latin America and the Caribbean[1]

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Abstract:

The COVID-19 crisis will have devastating implications for countries around the world—particularly tourism-dependent economies. This paper highlights the vulnerability of many Latin American and Caribbean countries, that are among the most dependent in the world on the tourism sector. Using shock simulations applied to activity in the tourism sector, it highlights how potentially damaging the pandemic could be for output, employment, and the balance of international payments across the region. The analysis suggests the pandemic is likely to imply an unprecedented shock, and that governments will have to look beyond traditional policy tools to safeguard their economies and citizens, and to ensure that the tourism sector—both operators and those employed by the sector—will be in a position to resume its substantial contribution when the crisis dissipates. COVID-19 represents an unprecedented extreme outlier event, and government efforts to protect the sector and their citizens must be equally unparalleled.

Journal of Economic Literature (JEL) Codes: A1, E17, F4, J6, O1

Keywords: balance of payments, Coronavirus, COVID-19, pandemic, economic crisis, pandemic, shock simulations, shock scenarios, tourism, tourism dependence, tourism

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I. Introduction

This paper focuses on the evolving economic and employment consequences of the COVID-19 outbreak, with a focus on the tourism sector in the Latin American and Caribbean (LAC) region.

In this context, we: (i) build a Tourism Dependency Index (TDI) to assess the significance of tourism for the LAC region, including relative to other countries across the world; (ii) consider historical shocks to tourism to determine whether this crisis has precedents; (iii) develop shock simulation scenarios highlighting how potentially damaging the pandemic could be for both employment and output for countries across the region; and, (iv) consider the implications of the COVID-19 crisis shock to tourism for the balance of payments positions of countries in the region. Our analysis suggests that for countries that depend on tourism, the pandemic is likely to imply an unprecedented shock, and that governments in the region will have to look beyond traditional policy tools in their efforts offset its impact on their economies, and to ensure that the tourism sector is in a position to resume its substantial contribution when the crisis dissipates.

II. COVID-19 Shock Transmission Channels

From an economic perspective, there are two broad shock transmission channels for most countries affected by the crisis:

- ***The domestic impact of the illness and preventative measures.*** The most significant and devastating implications of this crisis are its impact on people's health and wellbeing. The costs associated with this dimension of the COVID-19 outbreak are incalculable. In addition to lost lives and productivity from infected persons, preventative measures—including closed borders and economies—will have significant implications for output, government revenue, employment, and productivity. We will not focus on these domestic issues directly, though it is clear that preventative measures—particularly at the border—will contribute to the shock via its implications for tourism from abroad and within countries themselves.

- ***External shocks to physical, trade, and financial flows.*** The shock to cross-border physical, trade, and financial flows has been significant, and for some sectors and countries, without historical precedent. Shocks to manufacturing, the demand for commodities, and both travel and tourism have been widespread. In the case of international tourism, the shock has been almost absolute. In this context, even when travel restrictions can be removed safely, the impact of the crisis on incomes will likely have a prolonged adverse effect on tourism demand. The paper focuses on the economic and financial implications of this dimension of the external shock, particularly given the extreme dependence of many countries in Latin American and the Caribbean on this sector.

III. Significance of Tourism for Latin America and the Caribbean

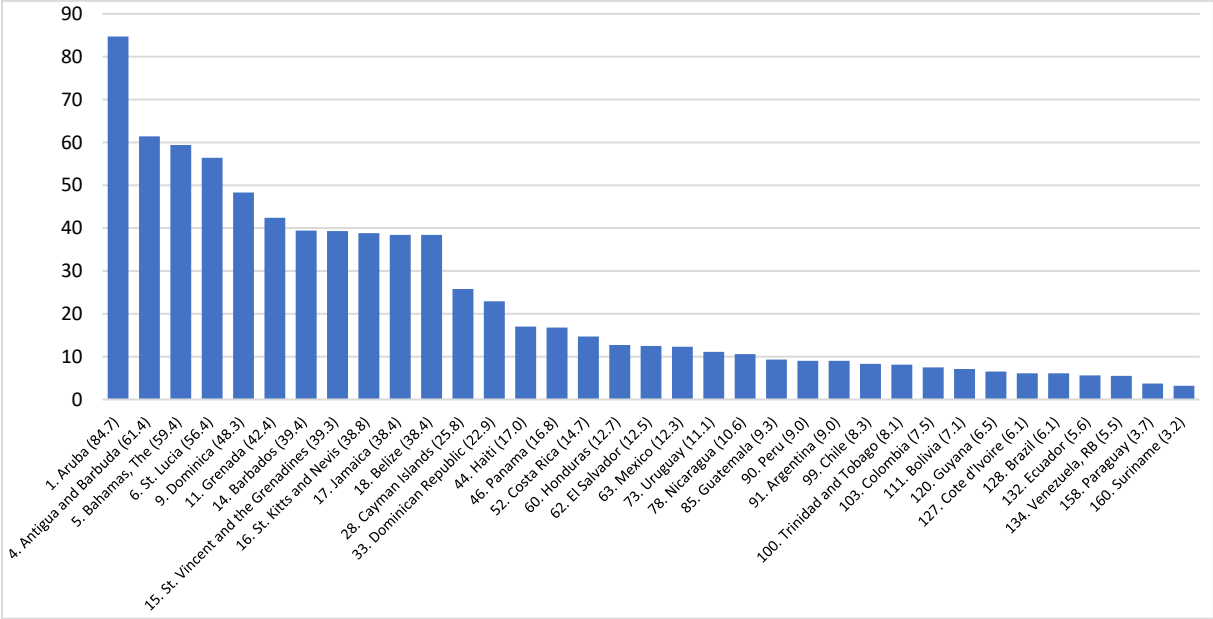
The impact of this crisis for individual countries will differ depending on the structure of the economy, and the transmission channels through which the shock propagates. In general, the two most significant conduits for shock transmission are international trade in goods and services and financial flows. For many countries in Latin America and the Caribbean, both channels are significant, particularly the trade channel, which includes two key sectors for many economies—tourism and commodities exports.

As a first step towards assessing possible implications of the crisis, we develop a new index of countries' dependence on the tourism sector. Our Tourism Dependency Index (TDI) is

calculated using 5-year averages (latest available, currently from 2014 to 2018) for the contribution of tourism to: (i) total export receipts; (ii) output as a share of real gross domestic product (GDP); and, (iii) employment, as a share of total national employment. The range is from zero to 100, with 100 representing total dependence on the sector.

As highlighted in Figure 1, many of the 35 countries in Latin America and the Caribbean for which data was available displayed significant dependence on the sector, with nearly a dozen Caribbean countries featuring in the top 20 on a global ranking of 166 countries with available data (see Annex 1 for a global ranking). In fact, the most tourism-dependent country in the world based on this measure is Aruba (no. 1 out of 166 countries globally), with other Caribbean nations including Antigua and Barbuda (no. 4), the Bahamas (no. 5), St. Lucia (no. 6), and Dominica (no. 9) rounding out the top 10.

Figure 1. Tourism Dependency Index: Latin America and The Caribbean (35 countries)
(2018, with rank vs. all 166 other countries for which the index was calculated)



Notes: The Tourism Dependency Index (TDI) is calculated using 5-year averages (2014-2018) for the total contribution of tourism to export receipts, GDP, and employment for each country. The range is from zero to 100, with 100 representing total dependence on the sector. TDI for 35 countries in Latin America and the Caribbean for which data was available displayed. The digit preceding the country name represents its rank out of 166 countries around the world for which data was available.
Source: Authors' calculations based on data from World Bank Development Indicators and World Travel and Tourism Council databases.

To put LAC countries' dependence on tourism in more granular perspective, in the case of Aruba—perhaps the most tourism dependent nation in the world—, the sector accounted for an average of about three-quarters of export receipts, and nearly 90 percent of both overall output and employment from 2014 to 2018 (Table 1). While many of the most tourism-dependent countries in the LAC region are from the Caribbean, the sector is still comparatively significant for some of the largest countries in the Americas. For example, from 2014 to 2018, tourism accounted for an average of about 16 percent of both economic output and employment in Mexico, and about 10 percent of both GDP and employment for Uruguay, Argentina, and Chile. In Brazil, tourism was responsible for about 8 percent of employment—representing hundreds of thousands of jobs.

Table 1. Indicators of Tourism Dependence for LAC Countries

	Tourism Dependency Index (TDI) (2018)	Tourism Dependency Index (TDI): Rank out of 166 Countries Globally (2018)	Tourism Export Receipts (percent of total exports) Ave. (2014-218)	Total Contribution to GDP (percent of total GDP) Ave. (2014-218)	Total Contribution to Employment (percent of total employment) Ave. (2014-218)	Passenger Tourism Arrivals (per year) Ave. (2014-218)
Aruba	84.7	1	77.2	87.9	89.3	1,110,300
Antigua and Barbuda	61.4	4	81.0	54.5	48.8	256,000
Bahamas, The	59.4	5	75.2	47.5	55.6	1,504,600
St. Lucia	56.4	6	80.9	40.1	48.4	362,400
Dominica	48.3	9	75.8	36.3	32.9	73,900
Grenada	42.4	11	83.0	22.9	21.4	162,800
Barbados	39.4	14	40.5	39.0	38.9	617,800
St. Vin. and	39.3	15	73.6	23.2	21.4	76,200
St. Kitts and Nevis	38.8	16	63.0	27.1	26.6	117,400
Jamaica	38.4	17	55.1	31.6	28.7	2,242,200
Belize	38.4	18	39.6	40.1	35.6	392,800
Cayman Islands	25.8	28	19.3	28.3	30.1	406,800
Dominican Republic	22.9	33	36.3	16.9	15.6	5,891,540
Haiti	17.0	44	33.2	9.6	8.4	468,040
Panama	16.8	46	22.4	13.9	14.1	1,880,800
Costa Rica	14.7	52	19.6	12.5	12.2	2,817,800
Honduras	12.7	60	10.1	15.0	13.2	859,250
El Salvador	12.5	62	17.8	10.5	9.4	1,482,860
Mexico	12.3	63	4.8	15.7	16.4	35,424,400
Uruguay	11.1	73	14.1	9.8	9.4	3,127,000
Nicaragua	10.6	78	11.1	11.3	9.4	1,452,600
Guatemala	9.3	85	12.3	8.3	7.4	1,574,000
Peru	9.0	90	9.3	9.8	8.0	3,773,200
Argentina	9.0	91	7.6	10.0	9.5	6,860,400
Chile	8.3	99	4.8	10.2	9.9	5,193,200
Trinidad and Tobago	8.1	100	6.2	7.8	10.3	406,200
Colombia	7.5	103	11.4	5.7	5.6	3,264,200
Bolivia	7.1	111	8.5	6.9	6.1	993,000
Guyana	6.5	120	4.9	7.1	7.5	236,400
Cote d'Ivoire	6.1	127	2.8	8.3	7.3	1,452,000
Brazil	6.1	128	2.7	8.2	7.5	6,498,600
Ecuador	5.6	132	6.8	5.2	4.9	1,856,200
Venezuela, RB	5.5	134	1.6	8.1	7.0	668,500
Paraguay	3.7	158	2.7	4.8	3.9	1,187,400
Suriname	3.2	160	4.1	3.0	2.8	253,500

Notes: The Tourism Dependency Index (TDI) is calculated using 5-year averages (2014-2018) for the total contribution of tourism to total export receipts, GDP, and employment for each country. The range is from zero to 100, with 100 representing total dependence. TDI for 35 countries in Latin America and the Caribbean for which data was available displayed. Color scale represents the relative contribution of the variable when compared to other countries (red = highest / blue = lowest).
Source: Authors' calculations based on data from World Bank Development Indicators and World Travel and Tourism Council databases.

Taken together, our Tourism Dependency Index and various related indicators suggest that countries in the LAC region are likely to suffer more than most in terms of the COVID-19 generated shock. In this context, a relevant question is whether there is a precedent in recent history for the COVID-19 shock, that might shed light on what we can expect for countries in this region?

IV. Historical Shocks to Tourism—Precedents?

There have been several shocks over the past two decades that are likely to have affected global demand for tourism. In this context, we identified six episodes since 2000 (Table 2): (1) the 9/11 attacks (September 2001); (2) the Severe Acute Respiratory Syndrome (SARS)

outbreak (November 2002 to July 2003); (3) the global financial crisis (December 2007 to June 2009); (4) the 2009 flu pandemic (H1N1) (January 2009 to August 2010); (5) the Ebola outbreak (December 2013 to June 2016); and (6) the Zika outbreak (April 2015 to November 2016). While these six shock episodes differ in their nature, origin, and duration, they all had some impact on global travel and tourism flows.

Table 2. Historical Precedents? Shocks to Tourism for Latin-American and Caribbean Countries

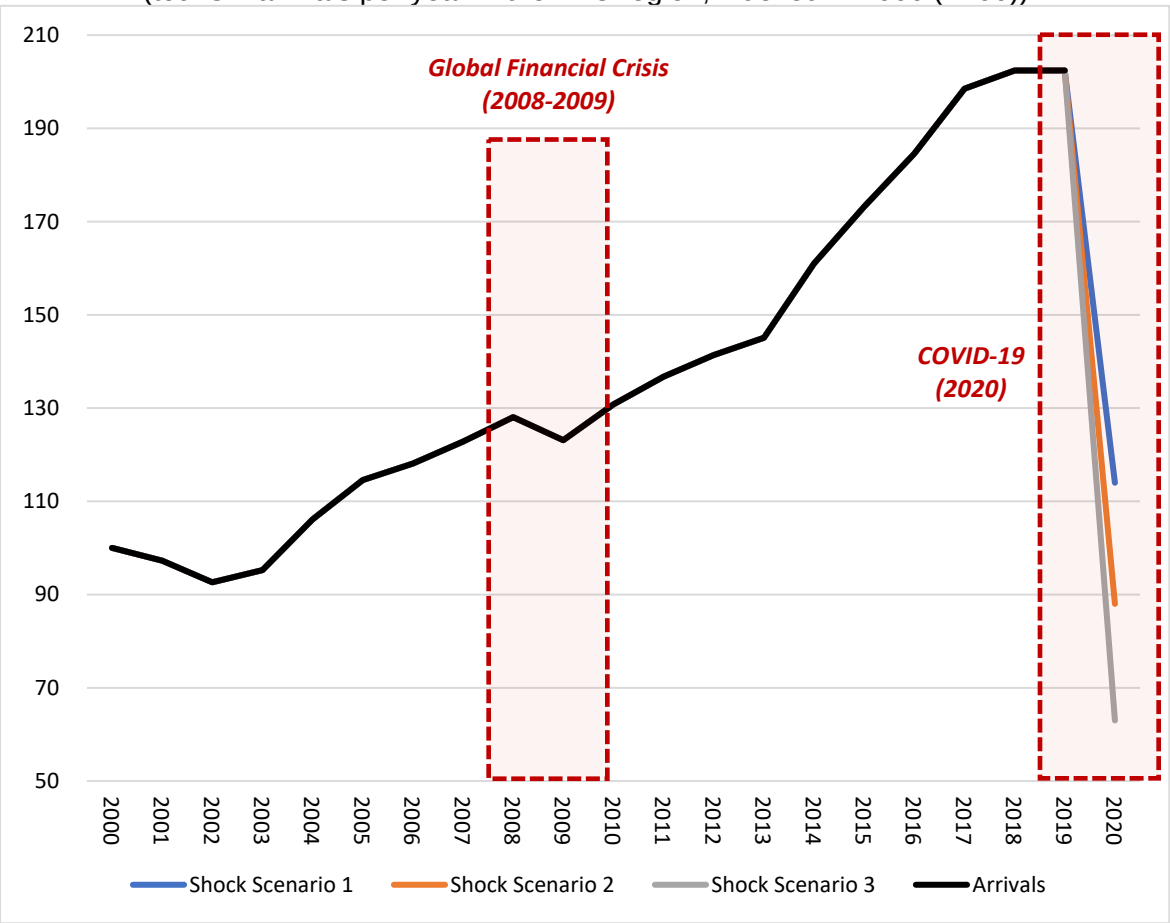
Event	Type	Start	End
9/11 attacks and aftermath	Terrorism	September 2001	September 2001
SARS outbreak	Epidemiological	November 2002	July 2003
Global financial crisis	Financial/Economic crisis	December 2007	June 2009
2009 flu pandemic (H1N1)	Epidemiological	January 2009	August 2010
Ebola outbreak	Epidemiological	December 2013	June 2016
Zika virus outbreak	Epidemiological	April 2015	November 2016

Notes: Other phenomena that occurred during these periods may also have had implications for tourism.
Source: Prepared by the authors.

A review of these shock episodes relative to tourism arrivals to the LAC region reveals that an appreciable decline in flows across LAC in aggregate was only observed during one of these six shock horizons—the global financial crisis.[2] After year-on-year growth in tourism arrivals to the region as a whole from 2003 through 2008, arrivals declined by about 4 percent in 2009, before growth resumed the following year through 2019 (Figure 2).

[2] It is true, however, that there has been some variation over other periods. For example, arrivals fell between 2000 and 2002, beginning prior to the 9/11 attacks. This was linked to global economic conditions rather than a particular event.

Figure 2. Historical Precedents? Shocks to Tourism Arrivals in Caribbean Countries
(tourism arrivals per year in the LAC region, indexed in 2000 (=100))



Source: Authors' scenarios and calculations based on data from World Bank and World Trade and Tourism Databases.

In terms of how the financial crisis and other periods of decline over the past two decades compare to the current situation, it is difficult to draw parallels. A review of tourism arrivals between 2000 and 2018 reveals that the largest single-year reduction was about 5 percent relative to the previous year in 2002. The near-complete shutdown of both passenger air travel and cruise ship activity beginning in March 2020 would imply a much larger shock to tourism arrivals and related receipts for 2020, and perhaps beyond. We develop shock scenarios for tourism reflecting the complete dissipation of activity during the second quarter of 2020, and plausible paths for the sector's recovery later in the year (see Table 3). These scenarios—which are very much in line with views expressed by experts representing the sector[3]—suggest that the shock to flows could be in the range of between 40 percent and 70 percent, making the COVID-19 crisis' implications for tourism an extreme outlier when compared to all available historical data (Figure 2).

[3] For example, the UN World Tourism Organization estimated a 97 percent drop in international tourist arrivals relative to previous years for April 2020 (https://www.unwto.org/es/news/los-nuevos-datos-muestran-el-impacto-de-covid-19-en-el-turismo).

V. Shock Scenarios for COVID-19's Impact on LAC Tourism

Given that the shock to tourism driven by the COVID-19 outbreak is without precedent, simulations can provide indications of potential implications. To this end, we define three shock scenarios reflecting possible recovery paths for tourism demand and flows to the region for 2020. These three scenarios (see Table 3 and Figure 2) assume that while the first quarter of 2020 was largely uninterrupted[4], the second quarter (Q2) saw a total loss of tourism activity. Scenario 1 assumes that tourism flows are about 50 percent lower than the historical norm in Q3, but only a 25 percent loss of activity relative to the norm in Q4. Assumptions for Scenarios 2 and 3 are more pessimistic and detailed in Table 3, below.

Table 3. Shock Scenarios for Tourism Flows to Latin America and the Caribbean
(loss of activity relative to historical norms)

	Scenario 1	Scenario 2	Scenario 3
Q2 2020	100%	100%	100%
Q3 2020	50%	75%	100%
Q4 2020	25%	50%	75%
Cumulative	*43.8%*	*56.3%*	*68.8%*

Note: All scenarios assume that tourism flows were largely uninterrupted for Q1.

Our simulations do not take into account historical seasonal arrival patterns for each of the shock horizons owing to data limitations. We do, however, acknowledge that this is important to the exercise given the large seasonal fluctuations in tourist arrivals for many countries in the region—e.g., for some countries in the Caribbean, arrivals increase by as much as 200 percent between high seasons (generally October to April) and the lower-volume period.[5]

In addition, our scenarios do not consider shocks to other sectors (e.g., merchandise or commodities trade[6]), or possible offsetting implications of policy measures (e.g., domestic stimulus or employment support measures). Similarly, we do not take into account the potential non-linear properties of such a shock, particularly the fact that shorter duration shocks are likely to have less severe implications for businesses (e.g., hotels, restaurants, service providers, etc.) than a prolonged crisis. For example, a short-lived shock may not lead to broad-based lay-offs, extended closures, or corporate and personal insolvencies; whereas a prolonged shock could precipitate more severe adjustments.

A. Tourism-Based Shocks to Economic Output

Against this backdrop, results of our simulations (Table 4) highlight how severe a shock to economic output the crisis could imply for many countries in the region. Note that we apply these shock scenarios to the World Trade and Tourism Council's (WTTC) estimates for the direct[7] contribution of tourism to each country's economic output. Replicating these simulations

[4] As noted above, UNWTO data shows that global tourism was adversely affected during the first quarter of 2020.
[5] In separate publications, we undertake similar shock simulations taking seasonality into account for countries in the Caribbean for which we had access to more granular monthly arrival data: see Mooney et al. (2020) for details.
[6] For example, the fall in oil prices, if sustained, represents a positive offsetting effect on net oil importers.
[7] The WTTC defines direct contribution as GDP generated by industries that deal directly with tourists, including hotels, travel agents, airlines and other passenger transport services, as well as the activities of restaurant and leisure industries that deal directly with tourists. See WTTC/Oxford Economics (2019) for more detail.

using the WTTC's estimates for the total (both direct and indirect[8]) contribution of the sector would result in larger impacts.[9]

Table 4. Tourism Shock Scenarios: Impact of COVID-19 Outbreak on Economic Output
(Scenarios 1-3: percentage point loss of real GDP relative to pre-crisis baseline estimates for 2020)

	Tourism Dependency Index (2018)	Direct Contribution of Tourism Sector to GDP (2018)	Scenario 1	Scenario 2	Scenario 3
Aruba	84.7	27.6	12.1	15.5	19.0
Antigua and Barbuda	61.4	13.1	5.7	7.4	9.0
The Bahamas	59.4	19.2	8.4	10.8	13.2
St. Lucia	56.4	15.6	6.8	8.8	10.7
Dominica	48.3	12.3	5.4	6.9	8.5
Grenada	42.4	6.9	3.0	3.9	4.8
Barbados	39.4	13.1	5.7	7.4	9.0
St. Kitts and Nevis	38.8	6.6	2.9	3.7	4.5
Belize	38.4	15.0	6.5	8.4	10.3
Jamaica	38.4	10.5	4.6	5.9	7.2
Cayman Islands	25.8	8.3	3.6	4.7	5.7
Dominican Republic	22.9	5.4	2.4	3.0	3.7
Haiti	17.0	3.4	1.5	1.9	2.3
Panama	16.8	5.9	2.6	3.3	4.1
Costa Rica	14.7	5.1	2.2	2.9	3.5
Honduras	12.7	5.6	2.4	3.1	3.8
El Salvador	12.5	4.1	1.8	2.3	2.8
Mexico	12.3	7.2	3.1	4.0	4.9
Nicaragua	10.6	6.1	2.7	3.5	4.2
Guatemala	9.3	3.0	1.3	1.7	2.0
Argentina	9.0	3.7	1.6	2.1	2.5
Peru	9.0	3.8	1.7	2.2	2.6
Chile	8.3	3.4	1.5	1.9	2.3
Trinidad and Tobago	8.1	2.8	1.2	1.6	1.9
Colombia	7.5	2.1	0.9	1.2	1.5
Bolivia	7.1	2.8	1.2	1.6	1.9
Guyana	6.5	2.7	1.2	1.5	1.8
Brazil	6.1	2.9	1.3	1.6	2.0
Ecuador	5.6	2.3	1.0	1.3	1.6
Paraguay	3.7	1.8	0.8	1.0	1.2
Suriname	3.2	1.3	0.5	0.7	0.9

Notes: The Tourism Dependency Index (TDI) is calculated using 5-year averages (2014-2018) for the total contribution of tourism to export receipts, GDP, and employment for each country. The range is from zero to 100, with 100 representing total dependence. TDI for 35 countries in Latin America and the Caribbean for which data was available displayed. Color scale represents the relative contribution of the variable when compared to other countries (red = highest / blue = lowest).
Source: Authors' calculations based on data from World Bank Development Indicators and World Travel and Tourism Council databases.

Shock magnitudes range from as much as a 19 and 13 percentage point loss in real GDP relative to pre-crisis expectations for Aruba and the Bahamas, respectively (under the most severe Scenario 3), to as little as about one percentage point in the most dire scenario for a country with modest tourism receipts like Suriname. Similarly, while the potential impact of the shock is relatively small for large LAC economies such as Mexico and Brazil, these countries could still see losses in real output of as much as 5 percentage points and 2 percentage points of GDP, respectively.

[8] The WTTC defines the indirect contribution to include capital investment by tourism-related industries, government spending on tourism (e.g., promotion activities), supply chain effects on local business, and induced effects from spending by those employed in the tourism sector, etc. See WTTC/Oxford Economics (2019) for more detail.
[9] See the following blog post for results of such an exercise for Caribbean countries: https://blogs.iadb.org/caribbean-dev-trends/en/covid-19-tourism-based-shock-scenarios-for-caribbean-countries/

B. Tourism-Based Shocks to Employment

Table 5 highlights the results of simulations using the same shock scenarios (defined in Table 3) to illustrate the potential implications of COVID-19 for employment. As above, for highly dependent countries such as Aruba, Bahamas, and St. Lucia, anywhere from 12 percent (Scenario 1) to as much as 20 percent of the labor force (Scenario 3) could be adversely affected by the pandemic. For larger economies in the LAC region, the share is smaller, but the absolute values are large because tens of thousands, or even millions of workers in case of Mexico and Brazil, are directly employed by the sector.

Table 5. Tourism Shock Scenarios: Impact of COVID-19 Outbreak on Employment
(Scenarios 1-3: percentage point loss of employment, as a share of total employment)

	Tourism Dependency Index	Direct Employment in Tourism Sector		Scenario 1	Scenario 2	Scenario 3
	(2018)	(persons, 2018)	(percent share of employment, 2018)			
Aruba	84.7	14,405	29.9	13.1	16.8	20.6
Antigua and Barbuda	61.4	5,014	13.6	5.9	7. 7	9.4
The Bahamas	59.4	54,147	26.5	11.6	14.9	18.2
St. Lucia	56.4	21,021	27.3	11.9	15.4	18.8
Dominica	48.3	4,224	11.3	4.9	6.3	7.8
Grenada	42.4	3,154	6.4	2.8	3.6	4.4
Barbados	39.4	17,938	13.7	6.0	7.7	9.4
St. Kitts and Nevis	38.8	1,644	6.5	2.9	3.7	4.5
Belize	38.4	21,380	12.9	5.7	7.3	8.9
Jamaica	38.4	113,738	9.4	4.1	5.3	6.5
Cayman Islands	25.8	3,520	9.9	4.3	5.6	6.8
Dominican Republic	22.9	211,710	4.8	2.1	2.7	3.3
Haiti	17.0	124,542	2.8	1.2	1.6	2.0
Panama	16.8	118,896	6.3	2.8	3.6	4.3
Costa Rica	14.7	109,102	5.3	2.3	3.0	3.6
Honduras	12.7	194,152	4.8	2.1	2.7	3.3
El Salvador	12.5	102,791	3.6	1.6	2.0	2.5
Mexico	12.3	4,038,540	7.6	3.3	4.3	5.2
Nicaragua	10.6	124,081	4.7	2.1	2.6	3.2
Guatemala	9.3	173,306	2.6	1.1	1.5	1.8
Argentina	9.0	664,275	3.5	1.5	2.0	2.4
Peru	9.0	414,112	2.5	1.1	1.4	1.7
Chile	8.3	286,932	3.5	1.5	2.0	2.4
Trinidad and Tobago	8.1	23,802	3.7	1.6	2.1	2.5
Colombia	7.5	550,697	2.4	1.0	1.3	1.6
Bolivia	7.1	122,875	2.4	1.0	1.3	1.6
Guyana	6.5	8,637	2.9	1.3	1.6	2.0
Brazil	6.1	2,393,160	2.6	1.1	1.5	1.8
Ecuador	5.6	160,713	2.2	1.0	1.2	1.5
Paraguay	3.7	46,058	1.4	0.6	0.8	0.9
Suriname	3.2	2,463	1.2	0.5	0.7	0.8

Notes: The Tourism Dependency Index (TDI) is calculated using 5-year averages (2014-2018) for the total contribution of tourism to export receipts, GDP, and employment for each country. The range is from zero to 100, with 100 representing total dependence. TDI for 35 countries in Latin America and the Caribbean for which data was available displayed. Color scale represents the relative contribution of the variable when compared to other countries (red = highest / blue = lowest).
Source: Authors' calculations based on data from World Bank Development Indicators and World Travel and Tourism Council databases.

C. Tourism-Based Shocks to the Balance of Payments

Another key dimension of the external shock to tourism relates to financial flows linked to the balance of payments (see Box 1 for an overview of related concepts). These flows can take the form of payments related to trade (i.e., receipts and payments for exports and imports of goods

and services), portfolio or other financing and investment flows, or transfers (e.g., official transfers or private remittances). This dimension of the shock is also important as it brings into view a number of related implications of the crisis for many countries—particularly as it relates to external sustainability, the availability of finance, and the potential for exchange rate movements.[10]

Box 1. COVID-19 and Shocks to the Balance of International Payments

Assessing implications of the crisis for the external sector requires a basic understanding of the balance of trade and payments with the rest of the world—commonly referred to as the balance of payments (BOP). The BOP is an accounting framework that captures all financial flows, including those related to international trade in goods and services, payments of income to and from other countries, as well as investments and other flows of funds between a country and the rest of the world. The most important concept in the context of this paper is that an economy must attract sufficient foreign exchange earnings to pay for what it consumes from abroad, as well as other foreign currency funding requirements (e.g., repayments to foreign creditors and investors).

The Balance of Payments

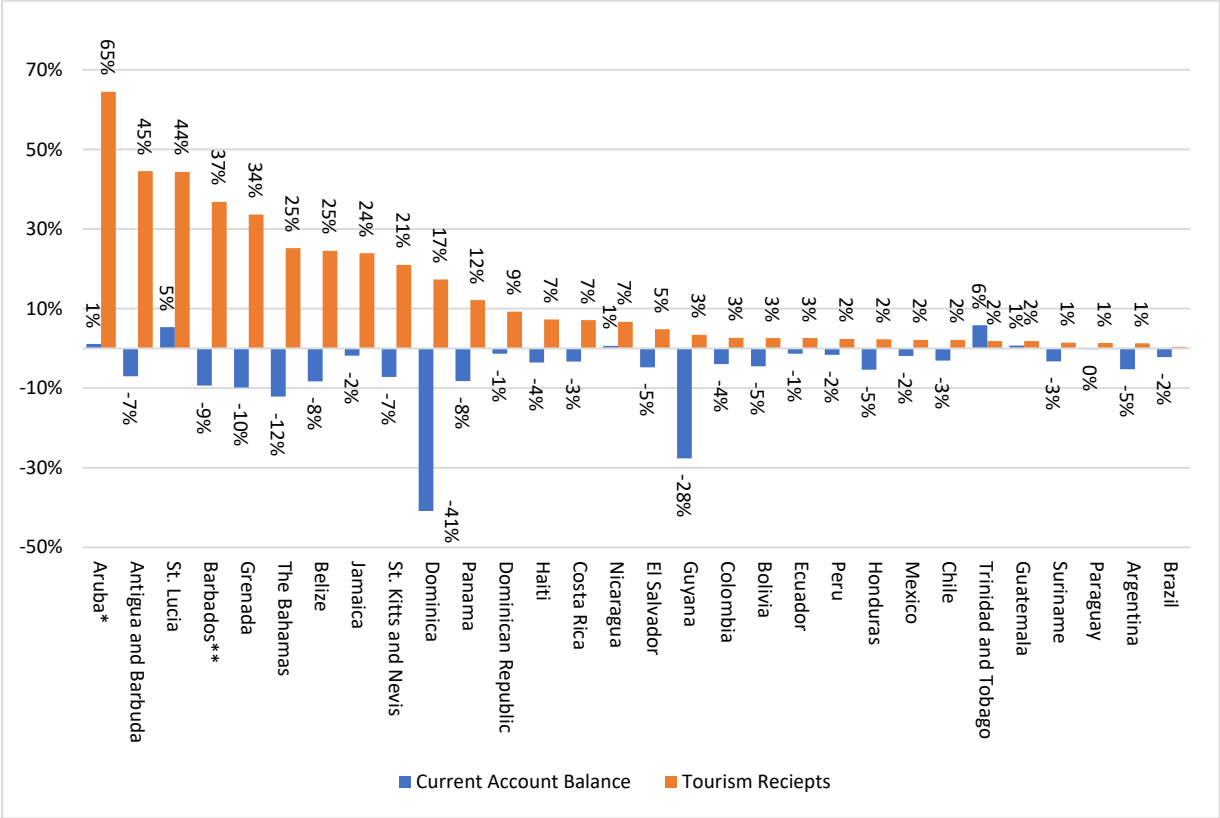
Current Account	Capital and Financial Account
1. Trade Balance	**1. Capital Account**
Exports	*Capital Transfers*
Imports	*Acquisition / Disposal of Assets*
2. Services Balance	**2. Financial Account**
Transportation	*Foreign Direct Investment*
Travel / Tourism	*Portfolio Investment*
Other Services	*Other Investment*
	Change in Reserves
3. Income Balance	
4. Current Transfers	
Government	
Private Remittances	

Generally speaking, a current account deficit occurs when the value of goods and services a country imports exceeds the value of its exports. Such a deficit will require funding from abroad, and when deficits become large or financing becomes unavailable, the imbalance will either have to correct (e.g., via a reduction of imports), or a country will have to resort to extraordinary financing, which could include a drawdown of official reserves or the incurrence of arrears—neither of which are sustainable for long. Large or sustained imbalances also tend to put downward pressure on the exchange rate. In the context of the COVID-19 crisis, the shock will affect various components of the balance of payments—particularly the services balance, which includes tourism receipts.

Tourism receipts represent a large share of overall exports, and an important source of foreign exchange earnings for many tourism-dependent economies in Latin America and the Caribbean. As highlighted in Figure 3, for many countries in the LAC region for which data is available, tourism receipts are significantly larger than current account balances—sometimes by an order of magnitude. In this context, the COVID-19 driven shock to this sector is likely to imply an unprecedented blow to external balances and sustainability for these countries.

[10] For a related discussion focused on Caribbean countries, see Mooney et al. (2020).

Figure 3. Tourism Receipts vs. Current Account Balances in LAC
(percent of GDP)



Notes: (*) Data for 2017 for Aruba, and (**) 2016 for Barbados, and 2018 for all other countries.
Source: Authors' calculations based on data from World Bank Development Indicators, IMF, and World Travel and Tourism Council databases.

The shock to tourism will also affect other flows within the BOP, including lower imports[11] and a potential reduction in the volume of investment from abroad in related and other sectors. Similarly, as confidence and both private and public sector balance sheets deteriorate owing to the economic shock—i.e., many companies and governments will be forced to borrow more with lower revenues—, external financing may become scarce and more costly.[12]

[11] The shock to tourism and economic performance will lower imports for at least two reasons: (i) tourism generates its own demand for imports of intermediate goods, such as fuel, food, and other related materials; and, (ii) a shock to incomes and employment will reduce demand for imports, including fuel, and other consumables.
[12] For example, if local businesses see earnings fall and prospects deteriorate, their financial viability and creditworthiness will ultimately affect the cost and volume of financing and investment available from abroad. Similarly, increasing risk aversion on the part of would-be foreign investors is also likely to translate into costs and other implications for funding. Finally, actual or anticipated exchange rate movements linked to the COVID-19 crisis could also affect the willingness of foreign investors and financial entities to invest.

Table 6. Tourism Shock Scenarios: Impact of COVID-19 Outbreak on Export Earnings
(Scenarios 1-3: loss of export receipts in percentage points of GDP)

	Tourism Dependency Index (2018)	Share of Export Receipts (2018) (percent share of exports)	Current Account Deficit (2018*,**) (percentage points of GDP)	Scenario 1 (percentage points of GDP)	Scenario 2 (percentage points of GDP)	Scenario 3 (percentage points of GDP)
Aruba	84.7	73.7	1.1	28.2	36.3	44.3
Antigua and Barbuda	61.4	61.4	-7	19.5	25.0	30.6
The Bahamas	59.4	70.8	-12.1	11.0	14.2	17.3
St. Lucia	56.4	68	5.4	19.4	24.9	30.5
Dominica	48.3	55.3	-40.9	7.6	9.7	11.9
Grenada	42.4	60.3	-9.8	14.7	18.9	23.1
Barbados	39.4	67.3	-9.4	16.1	20.7	25.3
St. Kitts and Nevis	38.8	33.4	-7.2	9.2	11.8	14.4
Belize	38.4	42.2	-8.3	10.7	13.8	16.9
Jamaica	38.4	60.9	-1.8	10.5	13.4	16.4
Dominican Republic	22.9	38.2	-1.4	4.0	5.2	6.3
Haiti	17	37.9	-3.6	3.2	4.1	5.0
Panama	16.8	25.7	-8.2	5.3	6.8	8.3
Costa Rica	14.7	20.3	-3.3	3.1	4.0	4.9
Honduras	12.7	7.3	-5.3	1.0	1.3	1.6
El Salvador	12.5	16.1	-4.8	2.1	2.7	3.3
Mexico	12.3	5.3	-1.9	0.9	1.2	1.5
Nicaragua	10.6	15.6	0.6	2.9	3.8	4.6
Guatemala	9.3	10	0.7	0.8	1.0	1.3
Argentina	9	8	-5.2	0.6	0.7	0.9
Peru	9	9.1	-1.6	1.0	1.3	1.6
Chile	8.3	6.7	-3.1	0.9	1.2	1.5
Colombia	7.5	14.6	-3.9	1.2	1.5	1.8
Bolivia	7.1	9.9	-4.5	1.1	1.5	1.8
Guyana	6.5	8.1	-27.6	1.5	1.9	2.4
Brazil	6.1	2.6	-2.2	0.2	0.2	0.3
Ecuador	5.6	11	-1.3	1.1	1.5	1.8
Paraguay	3.7	3.8	-0.2	0.6	0.8	0.9
Suriname	3.2	2.2	-3.3	0.6	0.8	1.0

Sources: Authors' calculations based on data from the World Bank, IMF, and World Travel and Tourism Council.
Notes: The Tourism Dependency Index (TDI) is calculated using 5-year averages (2014-2018) for the total contribution of tourism to export receipts, GDP, and employment for each country. The range is from zero to 100, with 100 representing total dependence. TDI for 35 countries in Latin America and the Caribbean for which data was available displayed. Color scale represents the relative contribution of the variable when compared to other countries (red = highest / blue = lowest).
Shocks applied to 2018 export receipts and volumes. (*) Data for 2017 for Aruba, and (**) 2016 for Barbados, and 2018 for all other countries.

Table 6 uses the same three shock scenarios (Table 3) previously applied to output and employment to illustrate the potential implications of COVID-19 for exports receipts and the current account. As noted above, this is a partial simulation, as the import content of tourism could be significant. For simplicity, we do not account for this factor, meaning that our simulations are likely to overestimate the shock to net exports. That said, the magnitudes of these simulated shocks are quite significant, with highly dependent countries potentially facing substantial losses of export receipts, which even under the least severe scenarios are often much larger in magnitude than historical current account balances. No country can sustain a significant increase of the current account deficit without obtaining additional financing from abroad, so shocks of this magnitude are likely to imply the need for adjustment in terms of the

volume of imports. So while we do not mean to suggest that current account deficits would widen by, for example, between about 30 to over 40 percentage points of GDP in the case of Aruba (depending on the shock applied), what is clear from this exercise is that the crisis will force many tourism-dependent countries to undergo significant adjustments in terms of their commercial and financial transactions and relationships with international partners. Similarly, there could be unprecedented pressures on exchange rates and financing flows, requiring difficult decisions and adjustments on the part of both public and private sectors.

VI. Conclusions and Policy Implications

In summary, we have shown that some countries in the LAC region are among the most dependent in the world on international tourism for output, employment, and export revenues. Even for larger and more diversified economies in the region, tourism supports the lives and livelihoods of millions of citizens in aggregate. We also show that the impact of the COVID-19 crisis on tourism flows to the region is without precedent in terms of its speed and severity—an extreme outlier. Using simulations and plausible scenarios for the trajectory of the COVID-19 shock, we highlight that for some countries in the LAC region, the direct impact of the crisis could have devastating implications.

Governments from around the world have undertaken measures to prevent the spread of the virus, and to support their citizens and economies through the shock. While most traditional policy tools have been activated in an attempt to dampen its impact, the nature of this crisis has blunted their efficacy. Economic policies are well suited to the objectives of demand and supply management during normal times—i.e., when people are free to transact. The fact that governments have ordered whole sectors to shut down and asked citizens to stop participating in many economic activities presents an unprecedented hurdle to traditional forms of stimulus. This is doubly relevant for tourism, where there has been an absolute prohibition of activity.

While a detailed discussion of policy interventions is beyond the scope of this paper, policymakers from tourism-dependent countries should focus on interventions aimed at ensuring that operators in the sector and those who rely on it for employment are insulated from the shock, to the extent possible, such that they are able to once again play vital roles in the future. There is nothing that can be done to replace or stimulate demand for tourism in the short run, but governments can provide focused and tailored support to preserve productive assets, help replace lost incomes for individuals engaged in the sector, and use the interim period to prepare the ground for the resumption of activity under uncertain circumstances. The COVID-19 shock to tourism in Latin America and the Caribbean represents an unprecedented extreme outlier event, and government interventions to support the sector and their citizens must be equally unparalleled.

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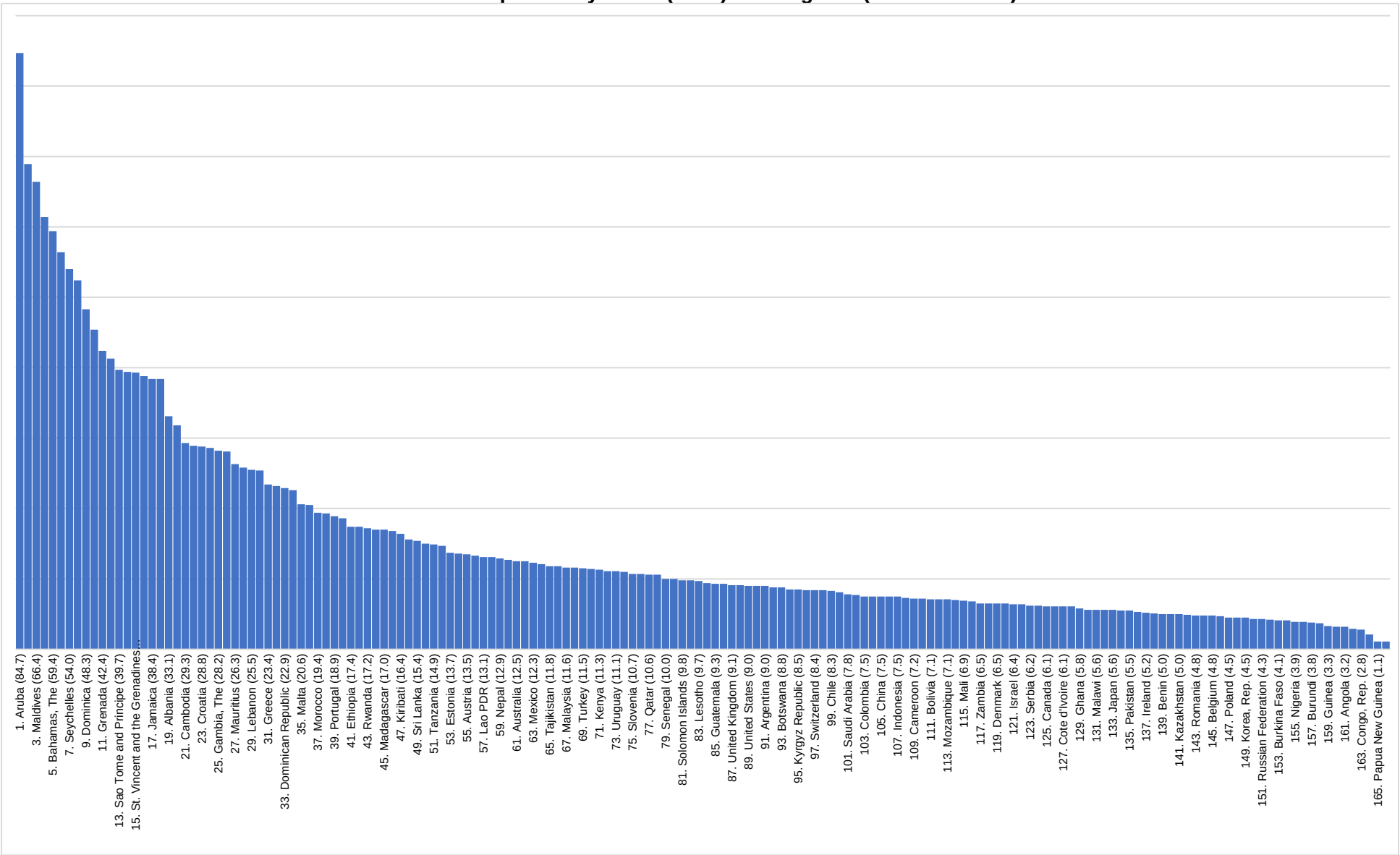
Annex. Tourism Dependency Index (TDI): All regions

Tourism Dependency Index (2018): All Regions (166 Countries)



Notes: The Tourism Dependency Index (TDI) is calculated using 5-year averages (2014-2018) for the total contribution of tourism to export receipts, GDP, and employment for each country. The range is from zero to 100, with 100 representing total dependence on the sector. TDI for 166 countries globally for which data was available displayed.
Source: Authors' calculations based on data from the World Bank and World Travel and Tourism Council.